Nitrogen Dioxide

Nitrogen Dioxide is a reddish-brown gas made of nitrogen and oxygen.

FORMATION

Nitrogen Dioxide (NO_2) is produced when nitric oxide (NO) combines with oxygen in the atmosphere. In addition to being a criteria pollutant, nitrogen dioxide is also a precursor for ozone and contributes to acid rain.

SOURCES

Nitric oxide (NO), which is needed for the formation of nitrogen dioxide (NO_2), is produced during high temperature combustion of fossil fuels in electric power generating facilities, industrial operations, automobiles and chemical processing plants.

HEALTH EFFECTS

Nitrogen dioxide can directly affect a human’s health by causing acute bronchitis or pneumonia and by causing a lowered resistance to respiratory infections. Long term exposure can also cause chronic lung impairment. Because it is a precursor for ozone, it indirectly affects a human’s health as well.

PUBLIC WELFARE EFFECTS

On Plants

- Some types of vegetation are sensitive to nitrogen dioxide including oats, alfalfa, tobacco, peas and carrots. The one primary symptom of chronic NO2 exposure is chlorosis or the yellowing of the leaves. Acute exposure can result in gray-green water soaked areas on the upper leaf surface and later the appearance of lesions on the leaves. Because nitrogen dioxide is a precursor for acid rain, it can affect both terrestrial and aquatic vegetation.

On Visibility

- Nitrogen dioxide is a reddish-brown gas thought to contribute to a significant proportion of the brownish coloration often observed in polluted air in colder months.